OSWER Innovations Pilot

Development of a National Policy for Fluorescent Lamp Disposal

The Office of Solid Waste and Emergency Response (OSWER) Assistant Administrator Marianne Horinko in December 2001 initiated a series of innovative pilots to test new ideas and strategies for environmental and public health protection to make OSWER programs more efficient, effective, and user-friendly. A small amount of money is set aside to fund creative proposals submitted by OSWER Headquarters and Regional employees. EPA employees are encouraged to talk to States, Tribes, local governments and external stakeholders about proposal ideas and partner on a project. The creative projects test approaches to waste minimization, energy recovery, recycling, and land revitalization that may be replicated across various sectors, industries, communities, and regions. We hope these pilots will pave the way for programmatic and policy recommendations by demonstrating the environmental and economic benefits of creative, innovative approaches to the difficult environmental challenges we face today.

BACKGROUND

A typical fluorescent lamp is composed of a sealed glass tube, coated inside with a powder containing various phosphor compounds such as mercury, antimony, and cadmium. The amount of mercury emitted from a spent lamp depends on the way the lamp is handled after it is changed. Emissions of mercury to the environment is of concern because mercury is a highly toxic heavy metal, which bioaccumulates through the food chain. Recovery of the mercury in lamps is desirable, in order to reduce the net amount of mercury ultimately released to the environment.

At present, there are numerous mercury recycling facilities in the United States. Generally, many of these facilities use a large stationary unit to both crush fluorescent bulbs and recover the mercury. Spent fluorescent bulbs are typically shipped intact to these recycling facilities, in containers often provided by the recycler. These facilities are subject to permitting and reporting requirements. Other bulb crushers consist of smaller devices that crush and store spent fluorescent bulbs in drums at the point of generation. These are called drum top crushing (DTC) devices.

The use of DTC devices for managing fluorescent lamps has been subject to inconsistent regulatory determinations by States and EPA Regions, in part because of the lack of a clear national strategy for controlling emissions from these devices. U.S. EPA Region 3 and the states in the Region have begun to prepare a white paper on the use of DTC devices for managing fluorescent lamps.

PILOT APPROACH

U.S. EPA Region 3, in partnership with the States in Region 3, other EPA Regions, DTC device manufacturers, and the Association of Lighting and Mercury Recyclers, will collect data on mercury and other emissions from the use of DTC devices. The data collected during the testing will be used to help develop a national policy on the use of DTC devices. This Pilot will develop educational materials (including pollution prevention information on the use of low-mercury lamps) and recommended training guidelines for users of the equipment.

INNOVATION

The proposed project is a partnership between EPA, states, and industry to promote mercury lamp recycling. This project is a necessary component to developing a national policy and education strategy on the use of DTC devices for recycling mercury lamps. The creation of a partnership between EPA, the states, and industry to reduce mercury emissions provides an innovative

approach to addressing this issue.

BENEFITS

The Pilot will generate empirical data needed to develop an effective policy on the appropriate use of DTC devices. A clear policy directed at protecting human health and the environment should help reduce mercury emissions, and the educational component of this project will help minimize human health effects from exposure to mercury by improper handling and disposal of fluorescent lamps. The national policy will also provide guidance to the States in preparing Universal Waste regulations which allow crushing of mercury-containing lamps under conditions that would be considered equivalent to the Federal prohibition. The national policy is essential for developing an effective national education, outreach, and advertisement campaign to encourage recycling of mercury lamps.

The Pilot promotes waste minimization and recycling through education and supports the agency-wide national action plan to reduce or eliminate anthropogenic releases of mercury, reduce exposures to mercury by improving risk communication, and ensure safe storage and disposal of mercury wastes and non-waste elemental mercury.

CONTACTS

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For additional information, visit the EPA OSWER Innovations web site at: www.epa.gov/oswer/IWG.htm.